1.8 Interfaces for Standard Design

This section identifies the AP1000 standard plant scope, interfaces related to design certification between the AP1000 plant design and the Combined License applicant, and the site-specific items to be included in an application for a Combined License. It is submitted to satisfy the requirements of 10 CFR 52.47(a)(1)(vii).

The AP1000 is a plant incorporating six buildings, the equipment in them, and the associated yard structures and tankage. This includes the nuclear island (consisting of the containment/shield building and the auxiliary building), the annex building and associated equipment, the diesel/generator building and associated equipment, the turbine generator building, the turbine/generator equipment, and the radwaste facilities. The physical boundary of the portion of the AP1000 included in this application is shown on the site plan, Figure 1.2-2. It includes arrangement and placement of structures within the indicated boundary. Additionally, the red zone delay barrier necessary for security is included, but the boundary fence and vehicle barrier are not included since they are site-specific. As a result, no interfaces need to be identified between or among the portions of the plant within the boundary. They are addressed in their appropriate section of this DCD. There are no safety-related interfaces to site-specific elements of the plant outside the scope of this certification application. The following site-specific elements are outside the scope of the AP1000 standard plant:

(1) The portions of the circulating water system and its heat sink outside the AP1000 buildings, as well as the specific design details of the main condenser. A conceptual design is presented, delineated by Double Brackets ([[ ]]), in subsection 10.4.5, based upon a cooling tower approach.

(2) The offsite power transmission system outside the low voltage terminals of the main and reserve transformers. Location and design of the main switchyard area and the equipment located therein, as well as design details such as voltage level for the main step-up transformers. A conceptual design of this system is included, delineated by Double Brackets ([[ ]]), in Section 8.2 for reference.

(3) Raw water source and treatment outside the turbine building. An interface specification of amount and water chemistry limits is provided.

(4) Sanitary and other drain systems outside the buildings identified above. This DCD is based upon the COL applicant providing adequate overall site drain collection and processing systems

(5) Communications systems and equipment outside the buildings identified above. This DCD is based upon the COL applicant providing adequate external communications.

(6) Location and design of administrative and training structures.

(7) Landscaping features.

A more detailed listing of the systems included in the standard AP1000 plant is included in Section 3.2.

There are a number of information interfaces between the AP1000 design and other portions of a completely licensed facility which must be addressed by parties that reference the AP1000 design. These interfaces are identified in Table 1.8-1 in the order they are presented in this DCD.

The safety-related interface requirements in Table 1.8-1 have been selected based on a review of interfaces between the AP1000 plant design and other Combined License applicant or site-specific items. Satisfying the referenced information for each of the interfaces listed will provide confidence that systems, structures and components within the AP1000 can perform their safety functions. The specific details of the interface parameters are identified in the DCD sections identified in Table 1.8-1. The interface specifications have been selected to suit a wide range of potential sites. Values identified by a Combined License applicant to be outside the range of acceptable parameters may be demonstrated to be acceptable. Such cases will be documented in the appropriate sections of the specific Combined License application.

The classification of interface types is based on the sources of interfaces listed in Appendix A of Regulatory Guide 1.70. The first four types below are directly related to the four sources of interfaces. They have been redefined slightly to reflect the fact that AP1000 is an essentially complete plant design. The classification of interface types is as follows:

- **Requirement of AP1000** – Requirements for operation of the AP1000 design that must be satisfied by the matching portion of the site, utility or Combined License applicant administration.

- **AP1000 Interface** – Interface condition used for AP1000 design which must be more precisely defined during the coordination effort between the AP1000 design team and the Combined License applicant.

- **Site Interface** – Site-related interface data upon which the AP1000 design is based.

- **Pertinent Criteria** – Criteria pertinent to the AP1000 design that may be useful for the design and staff review of the matching systems, components and structures.

- **Not an Interface** – Interface items identified in Appendix A of Regulatory Guide 1.70 which are wholly within the boundaries of the AP1000 plant. As a result, the "Matching Interface Item" in Table 1.8-1 is identified as N/A (not applicable).

- **Non-Nuclear Safety (NNS)** – Interface items identified in Appendix A of Regulatory Guide 1.70 which are non-nuclear safety-related because of the design features of AP1000.

Note that all plant interfaces listed in Appendix A of Regulatory Guide 1.70 have been listed in Table 1.8-1. As noted above and in Table 1.8-1, a number of these interfaces do not apply to the AP1000 plant as described in this DCD. In some cases, the interface listed in Appendix A of Regulatory Guide 1.70 is totally within the AP1000 plant and therefore not an interface. Other interfaces from Appendix A of Regulatory Guide 1.70 are identified as non-nuclear safety. The classification of systems, structures and components is described in Section 3.2. Only safety-related interfaces are detailed in Table 1-8.1. An example of an "NNS" (non-nuclear safety) type of interface is any of those associated with site service water. AP1000 does not rely on site service water as a safety grade ultimate heat sink. Neither the cooling tower nor the diesel-generator building is safety-related in AP1000. As such, there are no safety-related interfaces for these features.

Interfaces are listed in the order discussed in the DCD. General interfaces are listed as they relate to a particular section of this DCD. No specific system-by-system interface listings are required due to the complete nature of the AP1000 plant design. All safety-related systems are contained within the AP1000 plant design. The listing includes identification of the interface classification and the matching interface item to be specified by the Combined License applicant. In addition, the section of this DCD which addresses the listed interface is identified. To satisfy the requirements of 10 CFR 52.47(a)(1)(ix), representative conceptual designs are included in this DCD for those portions of the plant for which Westinghouse does not seek certification to aid the NRC staff in its review of the DCD and the probabilistic risk assessment to be submitted in support of the application, and to permit assessment of the adequacy of interface requirements.

Combined License Information

Combined License applicants referencing the AP1000 certified design will be required to provide site-specific information, verification that interface criteria are satisfied, information related to operating procedures, and other information required to support the AP1000 Design Certification. The description of information to be provided by the Combined License applicant is found in the DCD sections applicable to the specific information. Table 1.8-2 is a listing of the Combined License information items and the DCD location of the description of the information. In some cases, the activity required by a COL information item requires as-built information or other conditions that are not available when the COL application is submitted. These items are noted in the applicable DCD sections and Table 1.8-2. These activities are completed prior to fuel load.

Table 1.8-1 (Sheet 1 of 7)

SUMMARY OF AP1000 PLANT INTERFACES WITH REMAINDER OF PLANT

Item No.	Interface	Interface Type	Matching Interface Item	Section or Sub-section
1.1	Post accident Radio-Iodine sampling capability per NUREG 0737	Requirement of AP1000	Combined License applicant program	1.9.3
2.1	Envelope of AP1000 plant site related parameters	Site Interface	Site specific parameters	2.0
2.2	External missiles from man-made hazards and accidents	Site Interface	Site specific parameters	2.2
2.3	Maximum loads from man-made hazards and accidents	Site Interface	Site specific parameters	2.2
2.4	Limiting meteorological parameters (χ/Q) for design basis accidents and for routine releases and other extreme meteorological conditions for the design of systems and components exposed to the environment.	Site Interface	Site specific parameters	2.3
2.5	Tornado and operating basis wind loadings	Site Interface	Site specific parameters	2.3
2.6	External missiles generated by natural phenomena	Site Interface	Site specific parameters	2.3
2.7	Snow, ice and rain loads	Site Interface	Site specific parameters	2.3
2.8	Ambient air temperatures	Site Interface	Site specific parameters	2.3
2.9	Onsite meteorological measurement program	Requirement of AP1000	Combined License applicant program	2.3.3
2.10	Flood and ground water elevations	Site Interface	Site specific parameters	2.4
2.11	Hydrostatic loads on systems, components and structures	Site Interface	Site specific parameters	2.4
2.12	Seismic parameters peak ground acceleration response spectra shear wave velocity	Site Interface	Site specific parameters	 2.5 2.5 2.5

Table 1.8-1 (Sheet 2 of 7)

SUMMARY OF AP1000 PLANT INTERFACES WITH REMAINDER OF PLANT

Item No.	Interface	Interface Type	Matching Interface Item	Section or Sub-section
2.13	Required bearing capacity of foundation materials	Site Interface	Site specific parameters	2.5
3.1	Deleted			
3.2	Operating procedures to minimize water hammer	Requirement of AP1000	Combined License applicant procedure	3.6, 10
3.3	Site seismic sensor location and "trigger" value	Requirement of AP1000	Onsite implementation	3.7.4
3.4	Depth of overburden	Requirement of AP1000	Onsite implementation	3.8
3.5	Depth of embedment	Requirement of AP1000	Onsite implementation	3.8
3.6	Specific depth of waterproofing	Requirement of AP1000	Onsite implementation	3.8.5
3.7	Foundation Settlement Monitoring	Requirement of AP1000	Combined License applicant coordination	3.8.5
3.8	Lateral earth pressure loads	Not an Interface	N/A	3
3.9	Preoperational piping vibration test parameters	Not an Interface	N/A	3
3.10	Inservice Inspection requirements and locations	Requirement of AP1000	Combined License applicant program	3.9.6 5.2.4 6.6
3.11	Maintenance of preservice and reference test data for inservice testing of pumps and valves	Requirement of AP1000	Combined License applicant program	3.9.6 5.2.4 6.6
3.12	Earthquake response procedures	Requirement of AP1000	Combined License applicant program	3.7.4
5.1	Steam Generator Tube Surveillance Requirements	Requirement of AP1000	Combined License applicant program	5.4.2

Table 1.8-1 (Sheet 3 of 7)

SUMMARY OF AP1000 PLANT INTERFACES WITH REMAINDER OF PLANT

Item No.	Interface	Interface Type	Matching Interface Item	Section or Sub-section
6.1	Inservice Inspection requirements for the containment	Requirement of AP1000	Combined License applicant program	6.2.1
6.2	Off site environmental conditions assumed for Main Control Room and technical support center habitability design	AP1000 Interface	Site specific parameter	6.4
7.1	Listing of all design criteria applied to the design of the I&C systems	Not an Interface	N/A	7
7.2	Power required for site service water instrumentation	NNS and Not an Interface	N/A	7
7.3	Other provisions for site service water instrumentation	NNS and Not an Interface	N/A	7
8.1	Listing of design criteria applied to the design of the offsite power system	NNS	Combined License applicant coordination	8
8.2	Offsite ac requirements Steady-state load Inrush kVA for motors Nominal voltage Allowable voltage regulation Nominal frequency Allowable frequency fluctuation Maximum frequency decay rate Limiting under frequency value for RCP	NNS	Combined License applicant coordination	8

Table 1.8-1 (Sheet 4 of 7)

SUMMARY OF AP1000 PLANT INTERFACES WITH REMAINDER OF PLANT

Item No.	Interface	Interface Type	Matching Interface Item	Section or Sub-section
8.3	Offsite transmission system analysis: Loss of AP1000 or largest unit Voltage operating range Transient stability must be maintained and the RCP bus voltage must remain above the voltage required to maintain the flow assumed in Chapter 15 analyses for a minimum of three (3) seconds following a turbine trip. The protective devices controlling the switchyard breakers are set with consideration given to preserving the plant grid connection following a turbine trip.	NNS	Combined License applicant analysis	8.2
8.4	Listing of design criteria applied to the design of onsite ac power systems	NNS and Not an Interface	N/A	8
8.5	Onsite ac requirements	NNS and Not an Interface	N/A	8
8.6	Diesel generator room coordination	NNS and Not an Interface	N/A	8
8.7	Listing of design criteria applied to the design of onsite dc power systems	Not an Interface	N/A	8
8.8	Provisions of dc power systems to accommodate the site service water system	NNS and Not an Interface	N/A	8
9.1	Listing of design criteria applied to the design of portions of the site service water within AP1000	NNS and Not an Interface	N/A	9
9.2	Integrated heat load to site service water system	NNS and Not an Interface	N/A	9
9.3	Plant cooling water systems parameters	NNS and Not an Interface	N/A	9

Table 1.8-1 (Sheet 5 of 7)

SUMMARY OF AP1000 PLANT INTERFACES WITH REMAINDER OF PLANT

Item No.	Interface	Interface Type	Matching Interface Item	Section or Sub-section
9.4	Plant makeup water quality limits	NNS	Site specific parameter	9
9.5	Requirements for location and arrangement of raw and sanitary water systems	NNS	Site implementation	9
9.6	Ventilation requirements for diesel-generator room	NNS and Not an Interface	N/A	9
9.7	Requirements to satisfy fire protection program	AP1000 Interface	Combined License applicant program	9.5.1
11.1	Expected release rates of radioactive material from the Liquid Waste System including: Location of release points Effluent temperature Effluent flow rate Size and shape of flow orifices	Site Interface	Site specific parameters	11.2
11.2	Expected release rates of radioactive materials from the Gaseous Waste System including: Location of release points Height above grade Height relative to adjacent buildings Effluent temperature Effluent flow rate Effluent velocity Size and shape of flow orifices	Site Interface	Site specific parameters	11.3

Table 1.8-1 (Sheet 6 of 7)

SUMMARY OF AP1000 PLANT INTERFACES WITH REMAINDER OF PLANT

Item No.	Interface	Interface Type	Matching Interface Item	Section or Sub-section
11.3	Expected release rates of radioactive material from the Solid Waste System including: Location of release points Material types Material qualities Size and shape of material containers	Site Interface	Site specific parameters	11.4
11.4	Requirements for offsite sampling and monitoring of effluent concentrations	AP1000 Interface	Combined License applicant program	11.5
12.1	Identification of miscellaneous radioactive sources	AP1000 Interface	Combined License applicant program	12.2
13.1	Features that may affect plans for coping with emergencies as specified in 10 CFR 50, Appendix O	AP1000 Interface	Combined License applicant program	13.3
13.2	Physical Security Plan consistent with AP1000 plant	AP1000 Interface	Combined License applicant program	13.6
14.1	Identification of special features to be considered in development of the initial test program	Requirement of AP1000	Combined License applicant program	14
14.2	Maintenance of preoperational test data and inservice inspection baseline data	AP1000 Interface	Combined License applicant program	14
16.1	Administrative requirements associated with reliability information maintenance	AP1000 Interface	Combined License applicant program	16
16.2	Administrative requirements associated with the Technical Specifications	Requirement of AP1000	Combined License applicant implementation	16
16.3	Site and operator related information associated with the Reliability Assurance Program (D-RAP)	Requirement of AP1000	Combined License applicant program	16.2
18.1	Operating staff consistent with Human Factors evaluations	AP1000 Interface	Combined License applicant program	18.6
18.2	Operator training consistent with Human Factors evaluations	AP1000 Interface	Combined License applicant program	18.8 18.10

Table 1.8-1 (Sheet 7 of 7)

SUMMARY OF AP1000 PLANT INTERFACES WITH REMAINDER OF PLANT

Item No.	Interface	Interface Type	Matching Interface Item	Section or Sub-section
18.3	Operating Procedures consistent with Human Factors evaluations	AP1000 Interface	Combined License applicant program	18.8 18.10
18.4	Final coordination and integration of human system interface areas within a specific AP1000 consistent with Human Factors evaluations	AP1000 Interface	Combined License applicant program	18.2 18.8
18.5	Final coordination and integration of Combined License applicant facilities with those of a specific AP1000 consistent with Human Factors evaluations	AP1000 Interface	Combined License applicant program	18.2 18.8

Table 1.8-2 (Sheet 1 of 13)

SUMMARY OF AP1000 STANDARD PLANT COMBINED LICENSE INFORMATION ITEMS

Item No.	Subject	Subsection	Addressed by Westinghouse Document	Action Required by COL Applicant	Action Required by COL Holder
1.1-1	Construction and Startup Schedule	1.1.7	APP-GW-GLR-036	Yes	–
1.9-1	Regulatory Guide Conformance	1.9.1.5	APP-GW-GLN-129	Yes	–
2.1-1	Geography and Demography	2.1.1	N/A	Yes	–
2.2-1	Identification of Site-specific Potential Hazards	2.2.1	N/A	Yes	–
2.3-1	Regional Climatology	2.3.6.1	N/A	Yes	–
2.3-2	Local Meteorology	2.3.6.2	N/A	Yes	–
2.3-3	Onsite Meteorological Measurements Program	2.3.6.3	N/A	Yes	–
2.3-4	Short-Term Diffusion Estimates	2.3.6.4	N/A	Yes	–
2.3-5	Long-Term Diffusion Estimates	2.3.6.5	N/A	Yes	–
2.4-1	Hydrological Description	2.4.1.1	N/A	Yes	–
2.4-2	Floods	2.4.1.2	N/A	Yes	–
2.4-3	Cooling Water Supply	2.4.1.3	N/A	Yes	–
2.4-4	Groundwater	2.4.1.4	N/A	Yes	–
2.4-5	Accidental Release of Liquid Effluents into Ground and Surface Water	2.4.1.5	N/A	Yes	–
2.4-6	Flood Protection Emergency Operation Procedures	2.4.1.6	N/A	Yes	–

Table 1.8-2 (Sheet 2 of 13)

SUMMARY OF AP1000 STANDARD PLANT COMBINED LICENSE INFORMATION ITEMS

Item No.	Subject	Subsection	Addressed by Westinghouse Document	Action Required by COL Applicant	Action Required by COL Holder
2.5-1	Basic Geologic and Seismic Information	2.5.1	N/A	Yes	–
2.5-2	Site Seismic and Tectonic Characteristics Information	2.5.2.1	N/A	Yes	–
2.5-3	Geoscience Parameters	2.5.2.3	N/A	Yes	–
2.5-4	Surface Faulting	2.5.3	N/A	Yes	–
2.5-5	Site and Structures	2.5.4.6.1	N/A	Yes	–
2.5-6	Properties of Underlying Materials	2.5.4.6.2	N/A	Yes	–
2.5-7	Excavation and Backfill	2.5.4.6.3	N/A	Yes	–
2.5-8	Ground Water Conditions	2.5.4.6.4	N/A	Yes	–
2.5-9	Liquefaction Potential	2.5.4.6.5	N/A	Yes	–
2.5-10	Bearing Capacity	2.5.4.6.6	N/A	Yes	–
2.5-11	Earth Pressures	2.5.4.6.7	N/A	Yes	–
2.5-12	Static and Dynamic Stability of Facilities	2.5.4.6.9	N/A	Yes	–
2.5-13	Subsurface Instrumentation	2.5.4.6.10	N/A	Yes	–
2.5-14	Stability of Slopes	2.5.5	N/A	Yes	–
2.5-15	Embankments and Dams	2.5.6	N/A	Yes	–
2.5-16	Settlement of Nuclear Island	2.5.4.6.11	N/A	Yes	–

Table 1.8-2 (Sheet 3 of 13)

SUMMARY OF AP1000 STANDARD PLANT COMBINED LICENSE INFORMATION ITEMS

Item No.	Subject	Subsection	Addressed by Westinghouse Document	Action Required by COL Applicant	Action Required by COL Holder
3.3-1	Wind and Tornado Site Interface Criteria	3.3.3	APP-GW-GLR-020	Yes	–
3.4-1	Site-Specific Flooding Hazards Protective Measures	3.4.3	N/A	Yes	–
3.5-1	External Missile Protection Requirements	3.5.4	APP-GW-GLR-020	Yes	–
3.6-1	Pipe Break Hazards Analysis	3.6.4.1	APP-GW-GLR-021 APP-GW-GLR-074	No	Yes
3.6-2	Leak-Before-Break Evaluation of as-Designed Piping	3.6.4.2	APP-GW-GLR-022	No	No
3.6-3	Deleted Leak-Before-Break Evaluation of as-Built Piping	Deleted	APP-GW-GLR-021	N/A	N/A
3.6-4	Primary System Inspection Program for Leak-Before-Break Piping	3.6.4.4	N/A	Yes	–
3.7-1	Seismic Analysis of Dams	3.7.5.1	N/A	Yes	–
3.7-2	Post-Earthquake Procedures	3.7.5.2	N/A	Yes	–
3.7-3	Seismic Interaction Review	3.7.5.3	APP-GW-GLR-021	No	Yes
3.7-4	Reconciliation of Seismic Analyses of Nuclear Island Structures	3.7.5.4	APP-GW-GLR-021 APP-GW-S2R-010	No	Yes
3.7-5	Location of Free-Field Acceleration Sensor	3.7.5.5	N/A	Yes	–
3.8-1	Containment Vessel Design Adjacent to Large Penetrations	3.8.6.1	APP-GW-GLR-005	No	No

Table 1.8-2 (Sheet 4 of 13)

SUMMARY OF AP1000 STANDARD PLANT COMBINED LICENSE INFORMATION ITEMS

Item No.	Subject	Subsection	Addressed by Westinghouse Document	Action Required by COL Applicant	Action Required by COL Holder
3.8-2	Deleted Passive Containment Cooling System Water Storage Tank Examination	Deleted	APP-GW-GLR-021	N/A	N/A
3.8-3	Deleted As-Built Summary Report	Deleted	APP-GW-GLR-021	N/A	N/A
3.8-4	Deleted In-Service Inspection of Containment Vessel	Deleted	APP-GW-GLR-021	N/A	N/A
3.9-1	Reactor Internal Vibration Response	3.9.8.1	WCAP-16687-P	No	No
3.9-2	Design Specification and Reports	3.9.8.2	APP-GW-GLR-021	No	Yes
3.9-3	Snubber Operability Testing	3.9.8.3	N/A	Yes	–
3.9-4	Valve Inservice Testing	3.9.8.4	APP-GW-GLN-020	Yes	–
3.9-5	Surge Line Thermal Monitoring	3.9.8.5	N/A	Yes	–
3.9-6	Piping Benchmark Program	3.9.8.6	APP-GW-GLR-006	No	No
3.10-1	Experience-Based Qualification	3.10.6	APP-GW-GLN-006 APP-GW-GLR-031	No	No
3.11-1	Equipment Qualification File	3.11.5	APP-GW-GLN-110	No	Yes
4.2-1	Changes to Reference Reactor Design	4.2.5	APP-GW-GLR-059	No	No
4.3-1	Changes to Reference Reactor Design	4.3.4	APP-GW-GLR-059 APP-GW-GLR-119	No	No
4.4-1	Changes to Reference Reactor Design	4.4.7	N/A	Yes	–

Table 1.8-2 (Sheet 5 of 13)

SUMMARY OF AP1000 STANDARD PLANT COMBINED LICENSE INFORMATION ITEMS

Item No.	Subject	Subsection	Addressed by Westinghouse Document	Action Required by COL Applicant	Action Required by COL Holder
4.4-2	Confirm Assumptions for Safety Analyses DNBR Limits	4.4.7	N/A	Yes	–
5.2-1	ASME Code and Addenda	5.2.6.1	N/A	Yes	–
5.2-2	Plant Specific Inspection Program	5.2.6.2	N/A	Yes	–
5.3-1	Reactor Vessel Pressure – Temperature Limit Curves	5.3.6.1	APP-GW-GLR-021	No	Yes
5.3-2	Reactor Vessel Materials Surveillance Program	5.3.6.2	N/A	Yes	–
5.3-3	Surveillance Capsule Lead Factor and Azimuthal Location Confirmation	5.3.6.3	APP-GW-GLR-023	No	No
5.3-4	Reactor Vessel Materials Properties Verification	5.3.6.4.1	APP-GW-GLR-023	No	Yes
5.3-5	Reactor Vessel Insulation	5.3.6.5	APP-GW-GLR-060	No	No
5.3-6	Analysis of Reactor Vessel Insulation and Support Structure	5.3.6.4.2	APP-GW-GLR-060	No	No
5.4-1	Steam Generator Tube Integrity	5.4.15	N/A	Yes	–
6.1-1	Procedure Review for Austenitic Stainless Steels	6.1.3.1	N/A	Yes	–
6.1-2	Coating Program	6.1.3.2	N/A	Yes	–
6.2-1	Containment Leak Rate Testing	6.2.6	N/A	Yes	–
6.3-1	Containment Cleanliness Program	6.3.8.1	N/A	Yes	–

Table 1.8-2 (Sheet 6 of 13)

SUMMARY OF AP1000 STANDARD PLANT COMBINED LICENSE INFORMATION ITEMS

Item No.	Subject	Subsection	Addressed by Westinghouse Document	Action Required by COL Applicant	Action Required by COL Holder
6.3-2	Verification of Containment Resident Particulate Debris Characteristics	6.3.8.2	APP-GW-GLR-079	No	Yes
6.4-1	Local Hazardous Gas Services and Monitoring	6.4.7	N/A	Yes	–
6.4-2	Procedures for Training for Control Room Habitability	6.4.7	N/A	Yes	–
6.4-3	Main Control Room Inleakage Test Frequency	6.4.7	APP-GW-GLR-007	No	No
6.6-1	Inspection Programs	6.6.9.1	N/A	Yes	–
6.6-2	Construction Activities	6.6.9.2	N/A	Yes	–
7.1-1	Setpoint Calculations for Protective Functions	7.1.6.1	WCAP-16361-P	No	No
7.1-2	Resolution of Generic Open Items and Plant-Specific Action Items	7.1.6.2	APP-GW-GLR-017	No	No
7.2-1	FMEA for Protection System	7.2.3	WCAP-16438-P WCAP-16592-P	No	No
8.2-1	Offsite Electrical Power	8.2.5	N/A	Yes	–
8.2-2	Technical Interfaces	8.2.5	N/A	Yes	–
8.3-1	Grounding and Lightning Protection	8.3.3	N/A	Yes	–
8.3-2	Onsite Electrical Power Plant Procedures	8.3.3	N/A	Yes	–
9.1-1	New Fuel Rack	9.1.6.1	APP-GW-GLR-026	No	No

Table 1.8-2 (Sheet 7 of 13)

SUMMARY OF AP1000 STANDARD PLANT COMBINED LICENSE INFORMATION ITEMS

Item No.	Subject	Subsection	Addressed by Westinghouse Document	Action Required by COL Applicant	Action Required by COL Holder
9.1-2	Criticality Analysis for New Fuel Rack	9.1.6.2	APP-GW-GLR-030	No	No
9.1-3	Spent Fuel Racks	9.1.6.3	APP-GW-GLR-033 APP-GW-GLR-045	No	No
9.1-4	Criticality Analysis for Spent Fuel Racks	9.1.6.4	APP-GW-GLR-029	No	No
9.1-5	Inservice Inspection Program of Cranes	9.1.6.5	N/A	Yes	–
9.1-6	Radiation Monitor	9.1.6.6	N/A	Yes	–
9.2-1	Potable Water	9.2.11.1	N/A	Yes	–
9.2-2	Waste Water Retention Basins	9.2.11.2	N/A	Yes	–
9.3-1	Air Systems (NUREG-0933 Issue 43)	9.3.7	N/A	Yes	–
9.4-1	Ventilation Systems Operations	9.4.12	N/A	Yes	–
9.5-1	Qualification Requirements for Fire Protection Program	9.5.1.8.1	N/A	Yes	–
9.5-2	Fire Protection Analysis Information	9.5.1.8.2	N/A	Yes	–
9.5-3	Regulatory Conformance	9.5.1.8.3	N/A	Yes	–
9.5-4	NFPA Exceptions	9.5.1.8.4	N/A	Yes	–
9.5-5	Operator Actions Minimizing Spurious ADS Actuation	9.5.1.8.5	APP-GW-GLR-027	No	No
9.5-6	Verification of Field Installed Fire Barriers	9.5.1.8.6	N/A	No	Yes

Table 1.8-2 (Sheet 8 of 13)

SUMMARY OF AP1000 STANDARD PLANT COMBINED LICENSE INFORMATION ITEMS

Item No.	Subject	Subsection	Addressed by Westinghouse Document	Action Required by COL Applicant	Action Required by COL Holder
9.5-7	Fire Resistance Test Data	9.5.1.8.8	APP-GW-GLR-019	Yes	–
9.5-8	Establishment of Procedures to Minimize Risk for Fire Areas Breached During Maintenance	9.5.1.8.7	N/A	Yes	–
9.5-9	Offsite Interfaces	9.5.2.5.1	N/A	Yes	–
9.5-10	Emergency Offsite Communications	9.5.2.5.2	N/A	Yes	–
9.5-11	Security Communications	9.5.2.5.3	N/A	Yes	–
9.5-12	Cathodic Protection	9.5.4.7.1	APP-GW-GLR-120	No	No
9.5-13	Fuel Degradation Protection	9.5.4.7.2	APP-GW-GLR-120	Yes	–
10.1-1	Erosion-Corrosion Monitoring	10.1.3	N/A	Yes	No
10.2-1	Turbine Maintenance and Inspection	10.2.6	APP-GW-GLN-018	No	Yes
10.4-1	Circulating Water Supply	10.4.12.1	N/A	Yes	–
10.4-2	Condensate, Feedwater and Auxiliary Steam System Chemistry Control	10.4.12.2	N/A	Yes	–
10.4-3	Potable Water	10.4.12.3	N/A	Yes	–
11.2-1	Liquid Radwaste Processing by Mobile Equipment	11.2.5.1	N/A	Yes	–
11.2-2	Cost Benefit Analysis of Population Doses	11.2.5.2	N/A	Yes	–
11.2-3	Identification of Ion Exchange and Adsorbent Media	11.2.5.3	APP-GW-GLR-008	No	No

Table 1.8-2 (Sheet 9 of 13)

SUMMARY OF AP1000 STANDARD PLANT COMBINED LICENSE INFORMATION ITEMS

Item No.	Subject	Subsection	Addressed by Westinghouse Document	Action Required by COL Applicant	Action Required by COL Holder
11.2-4	Dilution and Control of Boric Acid Discharge	11.2.5.4	APP-GW-GLR-014	No	No
11.3-1	Cost Benefit Analysis of Population Doses	11.3.5.1	N/A	Yes	–
11.3-2	Identification of Adsorbent Media	11.3.5.2	APP-GW-GLR-008	No	No
11.4-1	Solid Waste Management System Process Control Program	11.4.6	N/A	Yes	–
11.5-1	Plant Offsite Dose Calculation Manual (ODCM)	11.5.7	N/A	Yes	–
11.5-2	Effluent Monitoring and Sampling	11.5.7	N/A	Yes	–
11.5-3	10 CFR 50, Appendix I	11.5.7	N/A	Yes	–
12.1-1	ALARA and Operational Policies	12.1.3	N/A	Yes	–
12.2-1	Additional Contained Radiation Sources	12.2.3	N/A	Yes	–
12.3-1	Administrative Controls for Radiological Protection	12.3.5.1	N/A	Yes	Yes
12.3-2	Criteria and Methods for Radiological Protection	12.3.5.2	N/A	Yes	–
12.3-3	Groundwater Monitoring Program	12.3.5.3	N/A	Yes	–
12.3-4	Record of Operational Events of Interest for Decommissioning	12.3.5.4	N/A	Yes	–

Table 1.8-2 (Sheet 10 of 13)

SUMMARY OF AP1000 STANDARD PLANT COMBINED LICENSE INFORMATION ITEMS

Item No.	Subject	Subsection	Addressed by Westinghouse Document	Action Required by COL Applicant	Action Required by COL Holder
12.5-1	Radiological Protection Organization and Procedures	12.5.5	N/A	Yes	–
13.1-1	Organizational Structure of Combined License Applicant	13.1.1	N/A	Yes	–
13.2-1	Training Program for Plant Personnel	13.2.1	N/A	Yes	–
13.3-1	Emergency Planning and Communications	13.3.1	N/A	Yes	–
13.3-2	Activation of Emergency Operations Facility	13.3.1	N/A	Yes	–
13.4-1	Operational Review	13.4.1	N/A	Yes	–
13.5-1	Plant Procedures	13.5.1	APP-GW-GLR-040	Yes	–
13.6-1	Security	13.6	APP-GW-GLR-062 APP-GW-GLR-066 APP-GW-GLR-068	Yes	–
13.6-2	Deleted Vital Equipment Verification	Deleted	APP-GW-GLR-062 APP-GW-GLR-066 APP-GW-GLR-068	N/A	N/A
13.6-3	Deleted Site-Specific Security System	Deleted	APP-GW-GLR-062 APP-GW-GLR-066 APP-GW-GLR-068	N/A	N/A
13.6-4	Deleted Nuclear Material Control Requirements	Deleted	APP-GW-GLR-062 APP-GW-GLR-066 APP-GW-GLR-068	N/A	N/A

Table 1.8-2 (Sheet 11 of 13)

SUMMARY OF AP1000 STANDARD PLANT COMBINED LICENSE INFORMATION ITEMS

Item No.	Subject	Subsection	Addressed by Westinghouse Document	Action Required by COL Applicant	Action Required by COL Holder
14.4-1	Organization and Staffing	14.4.1	N/A	Yes	–
14.4-2	Test Specifics and Procedures	14.4.2	APP-GW-GLR-037	No	Yes
14.4-3	Conduct of Test Program	14.4.3	APP-GW-GLR-038	No	No
14.4-4	Review and Evaluation of Test Results	14.4.4	N/A	No	Yes
14.4-5	Testing Interface Requirements	14.4.5	N/A	Yes	–
14.4-6	First-Plant-Only and Three-Plant-Only Tests	14.4.6	APP-GW-GLR-021	Yes	Yes
15.7-1	Consequences of Tank Failure	15.7.6	N/A	Yes	–
16.1-1	Technical Specification Preliminary Information	16.1	APP-GW-GLR-064 APP-GW-GLN-075	Yes	–
16.3-1	Procedure to Control Operability of Investment Protection Systems, Structures and Components	16.3.2	N/A	Yes	–
17.5-1	Quality Assurance Design Phase	17.5.1	N/A	Yes	–
17.5-2	Quality Assurance for Procurement, Fabrication, Installation, Construction and Testing	17.5.2	N/A	Yes	–
17.5-3	Design Reliability Assurance Program/Site Specific List of Systems, Structures and Components	17.5.3	APP-GW-GLR-117	No	No
17.5-4	Quality Assurance Program for Operations	17.5.4	N/A	Yes	–

Table 1.8-2 (Sheet 12 of 13)

SUMMARY OF AP1000 STANDARD PLANT COMBINED LICENSE INFORMATION ITEMS

Item No.	Subject	Subsection	Addressed by Westinghouse Document	Action Required by COL Applicant	Action Required by COL Holder
17.5-5	Maintaining Reliability of Risk-Significant SSCs	17.5.5	APP-GW-GLR-117	No	No
17.5-6	Maintenance Activities Relevant to Maintenance Rule	17.5.6	APP-GW-GLR-117	No	No
17.5-7	Operational Reliability Assurance Activities	17.5.7	APP-GW-GLR-117	No	No
17.5-8	Operational Reliability Assurance Program Integration with Quality Assurance Program	17.5.8	N/A	Yes	–
18.2-1	Execution of the NRC Approved Human Factors Engineering Program	18.2.6.1	N/A	Yes	–
18.2-2	Design of the Emergency Operations Facility	18.2.6.2	N/A	Yes	–
18.5-1	Task Analysis	18.5.4.1	APP-GW-GLR-081	Yes	–
18.5-2	Main Control Room	18.5.4.2	APP-GW-GLR-010	Yes	–
18.6-1	Plant Staffing	18.6.1	N/A	Yes	–
18.7-1	Execution and Documentation of the Human Reliability Analysis/Human Factors Engineering Integration	18.7.1	APP-GW-GL-011	No	No
18.8-1	Execution and Documentation of the Human System Interface Design Implementation Plan	18.8.5	APP-GW-GLR-082	No	No
18.9-1	Procedure Development	18.9.1	APP-GW-GLR-040	No	No
18.10-1	Training Program Development	18.10.1	N/A	Yes	–

Table 1.8-2 (Sheet 13 of 13)

SUMMARY OF AP1000 STANDARD PLANT COMBINED LICENSE INFORMATION ITEMS

Item No.	Subject	Subsection	Addressed by Westinghouse Document	Action Required by COL Applicant	Action Required by COL Holder
18.11-1	Verification and Validation of AP1000 Human Factors Engineering Program	18.11.1	APP-GW-GLR-084	No	No
18.14-1	Human Performance Monitoring	18.14	N/A	Yes	–
19.59.10-1	As-Built SSC HCLPF Comparison to Seismic Margin Evaluation	19.59.10.5	APP-GW-GLR-021	No	Yes
19.59.10-2	Evaluation of As-Built Plant Versus Design in AP1000 PRA and Site-Specific PRA External Events	19.59.10.5	APP-GW-GLR-101	Yes	Yes
19.59.10-3	Internal Fire and Internal Flood Analyses	19.59.10.5	APP-GW-GLR-021	No	Yes
19.59.10-4	Develop and Implement Severe Accident Management Guidance	19.59.10.5	APP-GW-GLR-070	Yes	–
19.59.10-5	Equipment Survivability	19.59.10.5	APP-GW-GLR-021	No	Yes
	Bulletins and Generic Letters (WCAP-15800, Revision 3, July 2004)	1.9.5.5	APP-GW-GLR-129	No	No
	Unresolved Safety Issues and Generic Safety Issues	Table 1.9-2	APP-GW-GLR-129	No	No